

while other, and perhaps equally as acute observers, have not been quite satisfied as to the origin and value of such lesions, or whether they were a cause or a consequence in their relation to diabetes.

Of the *abdominal* organs, the *pancreas* is the one most frequently affected—a thing we should expect to find on account of the important part which it plays in the digestion of fatty and amylaceous matters. According to "Tyson's Statements" it undergoes a pseudo-hypertrophy, consisting chiefly in a hyperplasia of the connective tissue, fatty degeneration of the gland-cells, and atrophy of the glandular structure. Cancerous disease, calcareous concretions in the ducts, cystic dilatation, etc., have all been enumerated amongst the post-mortem conditions of the pancreas after diabetes. But I may remark just here that cancerous disease of the pancreas does not necessarily cause diabetes; for, less than two years ago I assisted at a post-mortem examination of a professional brother, dead from cancer of the pancreas, and amongst his symptoms had been loss of appetite, little thirst, scanty and high-colored urine, and ascites; symptoms entirely opposite to those indicating diabetes.

The *liver* is occasionally changed in character, sometimes being more or less enlarged; at other times being found atrophied. But either of these conditions might be a consequence of the pancreatic disease. Other authors, from the time of Cullen down to the present, have not been able to connect a diseased state of the liver with diabetes in all cases, inasmuch as it is frequently found quite unchanged and apparently healthy after death from this disease. What might be termed the *nervo-chemical* theory; a theory that would result from a combination of the views of Claude Bernard and Pavy; the former holding in general terms that the process of sugar-formation in the liver is governed and regulated by the nervous system; the latter holding that the hydrocarbons of the food are stored up in the liver in the form of glycogen, and that under certain abnormal conditions the glycogen is converted into sugar, thus producing diabetes; this composite theory has, I say, received an able advocate in the person of P. W. Latham, A.M., M.D., F.R.

C.P., of Cambridge, England. In the "Croonian Lectures," delivered by him at the R.C. P.L., April, 1886, he classes rheumatism, gout, and diabetes in the same pathogenetic category, and ably argues that the whole cause of the incomplete metabolism, which is the great characteristic of diabetes, results from an imperfect condition of the vaso-motor system of nerves. With your permission I will quote some of his statements; but I can make use of only some of them, as they are too elaborately exemplified by abstruse chemical formulæ to make many of them available in a paper like this. He says, "It remains for me to say a very few words with regard to the pathology of diabetes, and to explain why I have classed it together with gout and rheumatism. If the function of the liver be interfered with, so that there is imperfect metabolism of glucose as it passes through the organ, this would be a satisfactory explanation of the origin of the disease, and we should expect in such cases that the urgency of some of the symptoms would be lessened by careful diet, and abstention from saccharine and starchy food." But there are other cases in which the diet seems to have much less effect in controlling the symptoms. It is this form which I wish briefly to discuss. "I have endeavored to show," he says, "that in acute rheumatism by the separation of the cyan-alcohols from the rest of the albuminous chain, we have glycocine, and glycollic and lactic acids formed; the glycollic acid being oxidized into CO_2 and water; the lactic acid in some measure being oxidized into these products, and in some measure passing off by the skin. But suppose that whilst the vaso-motor fibres of the muscular nerve are paralyzed and the vessels dilated, the molecules of a cyan-alcohol are detached and hydrated into glycollic acid, but only partially oxidized, the result would be that the glycollic acid would be transformed into carbonic acid and methyl-aldehyde water. Condensation of six molecules of the aldehyde may then take place as it does in plants, and form glucose." He then continues to show how, when the vaso-motor nerves are in a certain paralyzed condition we may get the formation of not only glucose, but para-aldehyde, a hypnotic, oxybutyric acid, and acetone;